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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,052	01/15/2002	Warren Carl Couvillion JR.	109208	2931

25944 7590 03/11/2005

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EXAMINER

RICHMAN, GLENN E

ART UNIT PAPER NUMBER

3764

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/045,052

Applicant(s)

COUVILLION ET AL. 

Examiner

Glenn Richman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/30/04, 10/1/03, 11/5/02</u>   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 18, line 5 appears to be incomplete. Correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-7, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein in view of Faughn.

Epstein discloses a pressure-sensing mat including a base layer (401).

Epstein does not disclose a plurality of pressure sensing elements formed over the base layer.

Faughn disclose a plurality of pressure sensing elements formed over the base layer (col. 5, lines 1-15).

It would have been obvious to use Faughn's "plurality" of pressure sensing elements, with Epstein's mat, as it is well known to use a plurality of pressure sensing elements, as taught by Faughn, for sensing a user in a virtual reality system, and as Epstein uses a sensor (801) for doing the same.

Epstein further discloses a top layer formed over the plurality of pressure sensing elements, wherein the plurality of pressure sensing elements output signals indicative of pressure applied to the top layer (fig. 7, col. 4, lines 44-61).

As for claim 2, Faughn further discloses the plurality of pressure- sensing elements make up a grid (col. 5, lines 1-15).

As for claim 4, Faughn discloses the base layer comprises a semi-rigid material (115).

As for claims 6 and 7, the rubber and plastics are obvious design choices, and are well known materials used in the manufacturing of VR environments.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8- 10, 12, 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Faughn.

As for claims 8-10, 12 Faughn discloses a locomotion interface that outputs signals indicative of a user's position in real space (abstract), the locomotion interface

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including a pressure-sensing mat including a base layer (col. 14, lines 15-36), a plurality of pressure sensing elements formed over the base layer, and a top layer formed over the plurality of pressure-sensing elements (col. 14, lines 15-36), the plurality of pressure sensing elements output signals indicative of pressure applied to the top layer (col. 14, lines 15-36); a virtual reality processor that uses the signals output by the locomotion interface to produce an output indicative of the user's position in the virtual space corresponding to the user's position and movement in the real space; a display that uses the output from the virtual reality processor to produce an image of the virtual space (col. 3, lines 14 – et seq.), the display is a head mounted display (70), the plurality of pressure- sensing elements make up a grid (col. 5, lines 1-15), wherein the base layer comprises a semi-rigid material (115).

As for claims 15-17, Faughn further discloses the virtual reality a pattern generator that uses the signals output from the locomotion interface to generate a plurality of corresponding patterns (col. 5, lines 36 – et seq.), a motion identifier that uses the plurality of patterns generated by the pattern generator to identify a corresponding plurality of user positions and user movements (col. 5, lines 36 – et seq.); and a virtual environment rendered that uses the identified user positions and movements to generate a virtual space such that the user can effect, and be effected by, the virtual space (col. 5, lines 36 – et seq.), the plurality of positions identified by the motion identifier comprise at least one of a prone user position, a crawling user position, and a standing user position (col. 5, lines 36 – et seq.), at least one of a backward user

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motion, a sideways user motion, a forward user motion, and a diagonal user motion (col. 5, lines 36 – et seq.).

The method claims 18-20 are inherent in the corresponding apparatus claims and are rejected for the reasons above.

Claim 3, 11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein and Faughn as applied to claims above, and further in view of O'Heir.

Epstein and Faughn do not disclose the plurality of pressure- sensing elements comprise force sensitive resistors.

O'Heir discloses a plurality of pressure- sensing elements comprise force sensitive resistors (col. 4, lines 34-41).


It would have been obvious to use O'heir's comprise force sensitive resistors, with Epstein's and Faughn's mats, as it is well known to use comprise force sensitive resistors, as taught by O'Heir, for sensing a user in a virtual reality system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Richman whose telephone number is 571-272-4981. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Richman  
Primary Examiner  
Art Unit 3764